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WHAT IS CLAIMED IS:

1. A device for the continuous manufacture of
5 microparticles or nanoparticles from at least one
aqueous phase and one organic phase comprising a
homogenization compartment in the form of a cylinder
(1) which is defined by a tubular wall forming the
casing of said cylinder and by a first side wall and a
10 second side wall which are positioned at each end of
said tubular wall; the device additionally comprising a
first inlet and a second inlet (2, 3) which pass
through said first side wall and which are appropriate
for respectively delivering an organic phase and an
15 aqueous phase to the homogenization compartment (1) and
an outlet (5) appropriate for extracting a particle
suspension from the homogenization compartment (1); the
homogenization compartment (1) including a mixing
system (4) comprising a rotor (11)/stator (12)
20 combination, characterized in that
 - a) said side walls are positioned along a vertical
plane,
 - b) the axis of symmetry of said cylinder is
positioned horizontally,
 - 25 c) the rotor (11) is installed so that it rotates
about a horizontal axis which passes through
said second side wall,
 - d) said first inlet (2) is a hollow tube
positioned in the extension of the axis of the
rotor (11) and comprises a final part (6)
30 situated inside the rotor (11) and inside the
stator (12),
 - e) the homogenization compartment (1) exhibits a
top side on which said outlet (5) is situated.

2. The device as claimed in claim 1, characterized in that the rotor (11) and the stator (12) are cylindrical in shape.

5 3. The device as claimed in claim 5, characterized in that the rotor (11) and the stator (12) comprise a row of teeth (13) and that the spacing (14) between the teeth (13) is from 1 to 4 mm.

10 4. The device as claimed in any one of the preceding claims, characterized in that the first inlet (2) comprises perforations (10).

5. The device as claimed in claim 4, characterized in
15 that the number of perforations (10) is from 1 to 20.

6. The device as claimed in claim 4 or 5, characterized in that the perforations (10) have a diameter from 0.01 mm to 1 mm.

20 7. The device as claimed in any one of the preceding claims, characterized in that the dimensions of the rotor (11)/stator (12) combination are such that said system occupies 4% to 40% of the volume of the
25 homogenization compartment (1).

8. A continuous process for the manufacture of microparticles or nanoparticles employing the device as claimed in any one of claims 1 to 7, characterized in
30 that an organic phase comprising an active substance, a polymer and a solvent and an aqueous phase comprising a surfactant are simultaneously delivered to the homogenization compartment (1) via the first inlet (2) and via the second inlet (3) respectively and that a
35 tangential velocity of 1.5 m/s to 50 m/s is applied to the rotor (11)/stator (12) combination so as simultaneously to form an emulsion of said phases and to extract solvent present in the organic phase so as

to obtain a particle suspension from which said particles are isolated.

9. The process as claimed in claim 8, characterized
5 in that the organic phase is dispersed radially through perforations (10) positioned on the second inlet (2).

10. The process as claimed in either of claims 8 and 9, in which said particles are isolated by discharging
10 said suspension via the outlet (5) of the homogenization compartment (1) into a storage receptacle and by subjecting said suspension to continuous ultrafiltration.

15 11. The process as claimed in either of claims 8 and 9, in which said particles are isolated by discharging said suspension via the outlet (5) of the homogenization compartment (1) into a storage
20 receptacle and by subjecting said suspension to continuous filtration.

12. The process for the continuous manufacture of microparticles or nanoparticles from at least one aqueous phase and one organic phase, said process
25 comprising the introduction of an organic phase and of an aqueous phase into a homogenization compartment (1) which includes a mixing system (4) comprising a rotor (11)/stator (12) combination and then the extraction of a suspension of microparticles or
30 nanoparticles through an outlet situated on a side of the homogenization compartment (1);
characterized in that

- a) said introduction of the aqueous phase and of the organic phase is carried out horizontally,
- 35 b) the rotor (11)/stator (12) combination is driven about a horizontal axis,

c) the organic phase is introduced into a space which is situated inside the rotor (11) and inside the stator (12),

5 d) said suspension is extracted through the top side of the homogenization compartment (1).